REMARKS

Applicants thank the Examiner for the through consideration given the present application. Claims 1 and 2 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Claim Objections

The Examiner objected to claim 1 due to informalities. First, the Examiner suggested changing "based" to "base". By way of the present Amendment, Applicants have removed this line completely rendering this objection moot.

In the same line, the Examiner suggested changing "enabling" to "enables". This has also been rendered moot by the cancellation of this paragraph. However, Applicants notes that the original language of enabling actually is correct since this not part of a "wherein" clause.

Rejection Under 35 USC 112

The Examiner rejected claims 1 and 2 under 35 USC 112, second paragraph, as being indefinite. This rejection is respectfully traversed.

First, in regard to claim 1, the Examiner states that it is unclear what the heterogeneous radio communications are simultaneously accessible by. By way of the present Amendment, Applicants have cancelled this line. The new language utilized makes it clear that the common core network enables access to a plurality of base stations simultaneously by communicating with the resource manager residing in the common core network via a network selector of interfaces in the base stations. Accordingly, Applicants submit that this part of the rejection is overcome.

The Examiner objected to the terms "service quality" and "seamlessly". By way of the present Amendment, Applicants have removed these terms.

The Examiner also objected to the phrase "in one area" as being unclear and likewise the phrase "corresponding areas". By way of the present Amendment, these phrases have been removed.

In regard to claim 2, the Examiner objected to the terms "prompt" and "seamless". These terms have now been removed as well, rendering this rejection moot.

Rejection Under 35 USC 103

Claims 1 and 2 stand rejected under 35 USC 103 as being obvious over Mizutani et al. (US Patent 6798,757) in view of the Walsh et al. article "Hybrid Networks – A Step Beyond 3G". This rejection is respectfully traversed.

The Examiner states that Mizutani et al. shows a mobile manager 34 that keeps track of the movement of mobile stations and functions as a home agent for mobile stations that move outside the common core network 30 where a plurality of mobile core networks form a common core network. The Examiner also states that Mizutani et al. shows a resource manager 52 that administers resource usage in the common core network and an AAA server 39 that provides admission control to support the traffic distribution in the common core network. The Examiner further states that the common core network is a homogeneous mobile network system and supports mobile stations roaming within the homogeneous common core network. The common core network enables Internet Access via a gateway router 33a and access to a base station 21A-F which inherently contains a base station interface. The Examiner admits that Mizutani et al. does not explicitly teach the common core network support roaming between heterogeneous radio communication networks based on a network layer of the OSI model.

The Examiner relies on Figure 6 of Walsh et al. to teach a common core network supporting roaming between heterogeneous radio communication networks based on the network layer of the OSI model while ensuring service quality. The Examiner feels that it would have been obvious to one of ordinary skill in the art to modify the system of Mizutani et al. to include the common core network supporting roaming between heterogeneous radio communication networks based on the network layer of the OSI model as taught by Walsh et al.

In regard to claim 2, the Examiner further states that Mizutani et al. further teaches a mobile system that includes a micromobility management function and a macromobility management function. This rejection is respectfully traversed.

The present invention provides a network system that integrates various wireless communication systems into a whole by forming a common core network which provides a common platform for a plurality of radio communication networks. All of the multi-service terminals can communicate with nodes residing in external networks through the platform. The network deals with seamless handoff between WANs and routing to integrate to the various heterogeneous networks naturally. The common core network enables Internet access via a gateway router and access to a base station by way of a base station interface in order to allow roaming within a homogeneous radio communication network and between heterogeneous radio communication networks in a certain area while ensuring service quality. A plurality of the common core networks are arranged via the Internet in the system to cover a wide area. Communication between WANs belonging to the common network is based on a link layer or network layer of the OSI model in order to reduce overhead and improve performance.

Claim 1 describes a common core network having a mobility manager with the function of tracing the location of a mobile host to determine an access network which will be effective at that position and the function of carrying out a local handoff within the common core network. It also carries out handoffs for external networks based on mobile IP. The common core network also includes a resource manager that coordinates traffic distribution and is responsible for resource allocation and admission control to support the traffic distribution in the common core network.

Applicants submit that Mizutani et al. teaches the use of mobile station which establishes a route and determines the availability of resources on the route. When the mobile station moves to a new location it changes the route, inactive per-hop behaviors (PHB's) are activated on the new route. The network system of Mizutani et al. has a mobile core network 30 including a mobile manager 34 and a resource manager 59. While the reference describes a macromobility and handover, the term handover means "the movement of a mobile station from one base station controller to another within the same edge router" (column 11, line 17-19). Also, the reference describes macromobility as meaning "the movement of a mobile station from one edge router to another one" (column 12, line 24-26). Thus, Mizutani et al. only discloses a handover function for homogeneous networks within a common core network and has a handover function between

a plurality of heterogeneous radio communication networks only through a plurality of common core networks. Thus, the meaning of macromobility management function is different in the Mizutani et al. reference than as is used in the present application. This is understandable since the reference never discloses the concept of a plurality of common core networks and a heterogeneous network.

The present invention is also different from Mizutani et al. in that the plurality of common core networks are arranged via the Internet in the system and the common core network includes a mobility manager that traces the location of the mobile host to determine an access network effective at that position. The mobility manager also carries out local handoffs within the common core network and handoffs for external networks based on mobile IP. The common core network also includes a resource manager that coordinates traffic distribution and is responsible for resource allocation and admission control to support the traffic distribution in the common core network. Thus, in the present invention, the integrated access techniques obtain a common configuration to improve the systems efficiency and make it easier for mobile users to receive a requested service. In order to do this, the resource manager and the mobility manager are essential.

In regard to the Walsh et al. article, the Examiner has stated that Figure 6 teaches a common core network supporting roaming between heterogeneous radio communication networks based on a network layer of the OSI model. However, Applicants submit that Figure 6 of Walsh et al. only teaches hybrid networks and never suggests a common core network supporting roaming between heterogeneous radio communication networks based on a network layer of the OSI model. The reference does not teach that the common core network enables access to a plurality of base stations simultaneously by the mobility manager having a function of tracing the location of the mobile host to determine an access network effective at the location nor the function of carrying out local handoffs within the common core network and handoffs for external networks based on mobile IP. Thus, the Walsh et al. reference denies a common core network because those different network cores must converge and this must be preceded by a standardization effort and business commitment to support it. As mentioned in the application, in the present invention, the structures are called heterogeneous to stress the fact a plurality of

access network are simultaneously present and cooperate with each other. However, the Walsh et al. reference never discloses such a system.

Thus, even if these references are combined, Applicants submit that the terms of claim 1 are not met. Neither of the references nor their combination teach the specific language now found in claim 1 in regard to the structure and function of the common core network. Accordingly, Applicants submit that claim 1 is patentable over this combination of references.

Claim 2 depends from claim 1 and as such is also considered to be allowable. In addition this claim includes additional limitations which make this claim further allowable. Thus, claim 2 describe micromobility management function and a macromobility management function where the first means of function to support handover for any mobile host roaming between base stations belonging to a homogeneous radio communication networks or between base stations belonging to heterogeneous radio communication networks or between routers in a common core network. The macromobility management function means a function to support handover for any mobile host roaming base stations belonging to homogeneous radio communication networks or between base stations belonging to heterogeneous radio communication networks or between routers through a plurality of common core networks. All access points of the WANs are connected to a common core network thereby providing a seamless handover between the WANs and the common core network. Thus, a natural integration of the various heterogeneous networks is achieved.

Applicants submit that combination of Mizutani et al. and Walsh et al. also do not teach this description of the micromobility management function and the macromobility management function. Accordingly, Applicants submit that claim 2 is additionally allowable.

Conclusion

In view of the above remarks, it is believed that claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse Reg. No. 27,295 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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